

CLAIMS

1. An active matrix liquid crystal display device comprising:

first and second substrates;

a liquid crystal layer disposed between said first and second substrates;

plural image signal lines and scan signal lines formed on the first substrate, and each pixel region being formed by adjacent image signal lines and adjacent scan signal lines having at least an active device;

at least a pixel electrode connected to the active device and at least a counter electrode in each pixel, the pixel electrode and the counter electrode are on the first substrate;

a first alignment film formed over the pixel electrode and counter electrode on the first substrate at least in the pixel forming region;

a second alignment film formed on the second substrate at least in the pixel forming region;

wherein rubbing directions of first and second alignment films are substantially parallel to each other.

2. An active matrix liquid crystal display device comprising:

first and second substrates;

a liquid crystal layer disposed between said first and second substrates;

plural image signal lines and scan signal lines are

formed on the substrate, and each pixel region being formed by adjacent image signal lines and adjacent scan signal lines having at least an active device;

at least a pixel electrode connected to the active device and at least a counter electrode in each pixel, the pixel electrode and the counter electrode are on the first substrate;

a first alignment film formed over the pixel electrode and counter electrode on the first substrate at least in the pixel forming region; and

a second alignment film formed on the second substrate at least in the pixel forming region;

wherein an initial pre-tilt angle of liquid crystal molecules at upper and lower interfaces of the liquid crystal layer are set so as to be in splay state.

3. An active matrix liquid crystal display device comprising:

first and second substrates;

a liquid crystal layer disposed between said first and second substrates;

plural image signal lines and scan signal lines are formed on the first substrate, and each pixel region being formed by adjacent image signal lines and adjacent scan signal lines having at least an active device;

at least a pixel electrode connected to the active device and at least a counter electrode in each pixel, the pixel electrode and the counter electrode are on the first

substrate;

a first alignment film formed over the pixel electrode and counter electrode on the first substrate at least in the pixel forming region; and

a second alignment film formed on the second substrate at least in the pixel forming region;

wherein rubbing directions of first and second alignment films are substantially antiparallel to each other and a pretilt angle is set below 10 degrees.

4. An active matrix liquid crystal display device according to claim 1, 2 or 3, wherein the active matrix liquid crystal display has normally-black mode.

5. An active matrix liquid crystal display device according to claim 1, 2, or 3, wherein a view angle range of a contrast ratio of at least 10 to 1 is within a range of all-directional coverage as tilted by at least 40 degrees from a vertical direction with respect to a display plane.

6. An active matrix liquid crystal display device according to claim 5,

wherein at least one of the pixel electrode and the counter electrode is a transparent electrode.

7. An active matrix liquid crystal display device according to claim 4, wherein a view angle range of a contrast ratio of at least 10 to 1 is within a range of all-directional

coverage as tilted by at least 40 degrees from a vertical direction with respect to a display plane.

8. An active matrix liquid crystal display device according to claim 7,

5 wherein at least one of the pixel electrode and the counter electrode is a transparent electrode.